

WICKES GUIDE TO CEMENT ADDITIVES

Cement is a man made mineral based powder which goes through a chemical change or reaction when mixed with water. First it becomes like an adhesive paste, and eventually hardens, but it has virtually no uses on its own.

The main purpose of cement is to act as a binding agent for bulkier materials such as sand and various types of stone which go to make the mortar mixes, cement rendering and concrete mixes used for a variety of jobs in and around the home.

Wickes cement additives, including cement dyes, are all designed to make working with cement easier and produce far better results.



When used in such mixes, cement is not always a perfect product. It can shrink during drying out causing cracks to develop, and it can be too rigid. If too much water is used in the mix, the end result will be weak concrete or mortar. In hot weather the mix can dry too quickly and in cold weather too slowly, perhaps even being further damaged by frost. No standard mix is waterproof and most mixes will, during the early drying out period, develop surface 'pores' as air bubbles escape, again causing weakness and allowing water penetration. Cement additives or admixtures can help to prevent any of these problems arising and Wickes stock a selection of admixtures to ensure that any projects you undertake using Ordinary Portland Cement or Mastercrete will be successful.

BEFORE YOU START

PRECAUTIONS

All Wickes cement additives are non-flammable and non-hazardous in normal use but sensible precautions should be taken when using them in much the same way as when using cement which is an alkaline product.

Avoid skin contact as much as possible. If contact does occur or if liquid is accidentally splashed in the eyes wash out thoroughly in clean water. You should wash anyway after using cement and additives, before eating or allowing hand to mouth contact.

Should any liquid be swallowed, seek medical advice immediately.

STORAGE

All additives should be stored in a frost free place within the temperature range 5°-30° C.

WICKES LIQUID WATERPROOFER 5 Litre - 243-001

This product is a chemical admixture in liquid form specially formulated for use in concrete mixes, cement renders, mortars and grouts, with the ability to improve resistance to the passage of water or moisture through such mixes as the result of capillary action.

To achieve the greatest resistance it is essential that concrete is well panned or vibrated to eliminate trapped air.

The effect of the additive is to 'plasticise' the mix, reducing the amount of gauging water required, giving the mix additional strength and flexibility to prevent it cracking or crazing during a more controlled drying out period. It provides a compact easily worked mix when wet with a smoother hard wearing, less dusty surface when dry.

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The improved adhesion of the mix helps considerably when used for mortar rendering purposes. The liquid can be used with all types of Portland Cement, but not with high alumina cements. It is simply mixed with water 1:30 and added to the cement/aggregate mix as the gauging water to the required consistency.

WICKES MORTAR PLASTICISER **5 litres - 240-669**

Lime is frequently used as an additive in bricklaying mortar mixes to provide a smoother shrink free mix with the added advantage that the mortar when dry retains a little flexibility to cope with such movement as thermal expansion and contraction.

But lime delays the drying time of the mix, weakens it slightly, and is relatively expensive. Wickes Mortar Plasticiser has all the advantages of lime and none of the disadvantages. This liquid admixture plasticises a cement/sand mix using less gauging water than usual, giving an easily workable 'fatty' mortar with strong adhesion. It has a reasonably fast initial setting period but leaves ample time for the adjustment of bricks.

When dry the mortar with added plasticiser is more resistant to the effects of frost than a standard cement/sand/lime mix.

The plasticiser is added to the gauging water at a rate of 1/5 litre of plasticiser to 20 litres of water. It is normal

practice to mix sufficient plasticiser and water in a large tub to provide a uniform strength for several mixings of cement and sand. As a rough guide you will need to mix in 0.28 litres of plasticiser with water for every 50Kg of cement.

WICKES CEMENT DYES

Red	1kg	154-067
Black	1kg	154-065
Buff	1kg	154-066

Sold in granular form and containing an air-entraining plasticiser, Wickes Cement Dyes enable normal mortar mixes, render mixes and concrete to be coloured to more closely match existing cement based surfaces or to provide a pleasing appearance to new work. With brickwork particularly, mortar courses when coloured can highlight brickwork or can blend with it.

Wickes Cement Dye has a self-mixing action and distributes evenly throughout the concrete or mortar when mixed in the normal manner. Always gauge colour by the weight/ratio added. When gauging by hand, dry measure out the aggregate and cement and sprinkle Wickes Cement Dye over the heap, following which the material should be turned over dry and then wet mixed in the normal manner.

When mixing by machine, place the aggregates and cement in the mixing drum, add the amount of Wickes Cement Dye required and mix in the normal manner.

The amount of colourant used will affect the shade produced so a careful check must be kept when mixing successive batches that the same quantity is used each time.

Colours indicated on the front of the pack are only a guide. It should be noted, that varying sources of sand, aggregate, and cement can produce variations in the shade achieved.

For general use, a rate of about 1.2 kg of colour to 25 kg cement is suggested, dependent upon shade required and the components used in the mix.

Tip: Try wetting the existing set mortar you are trying to match, as this helps when comparing a new to the existing mix but remember, if you are making several batches, variation i.e. colour, quantity or type, in any of the component mix, will change the colour.

Shading will also be affected by the colour of aggregates used.

Wickes Cement Dyes are made from synthetic oxides, complying with BS 1014.

WICKES CONCRETE DUST-PROOFER AND SURFACE HARDENER **5 litres - 240-717**

Concrete floors can, however carefully laid, become dusty and after a time begin to show signs of wear. This is particularly so in garages and workshops.

Wickes Concrete Dustproofer and Surface Hardener is ready to use alkaline solution of tough silicate material which combines with softer lime-free particles in conventional concrete mixes to form a harder surface which resists wear and dusting. It can be used on old concrete in basically good condition or on new concrete laid at least 14 days before. Provided the concrete is clean and free from surface water, the Dustproofer is simply poured onto the floor and spread out with a soft broom, then left to dry for 40 minutes. The floor is then washed with clean water.

On very porous floors a second or third coat should be applied with 40-60 minutes between coats. Ponding should be removed after 10 minutes. 40-60 minutes after the final coat the floor should be washed with clean water. When coloured pigments have been used on concrete or granolithic flooring, it is advisable to test treat a small area first to check that Wickes Dustproofer has no adverse effects on the colour.

WICKES FROST PROOFER AND RAPID HARDENER **5 litres - 240-714**

This admixture reduces the initial and final setting time of normal concrete by about two thirds as well as providing additional anti-frost protection for concrete laid in cold weather. As a rapid hardener it is invaluable allowing pressure to be put on newly laid concrete far sooner than would normally be possible. When the concrete is laid in

summer with temperatures between 15-20°C (60-70°F) it quickly begins curing and should be virtually fully dry after 24 hours. In very hot weather where concrete has been laid in direct sunlight, polythene sheeting or damp sacking should still be placed over the surface to prevent the top drying out at a faster rate than the remainder.

In winter the concrete will still harden much more quickly than usual and is protected against sudden temperature drops but you should still take the precautions generally associated with cold weather concreting such as laying polythene sheeting covered with sacks, expanded polystyrene or a similar insulant over the concrete to preserve the heat generated during the drying process.

Wickes Frost Proofer and Rapid Hardener should only be used with ordinary and rapid hardening Portland Cement. It should not be used with high alumina cements, sulphate resistant cements, extra rapid hardening Portland Cement, lime mortars or in mixes intended for steam curing. The admixture which contains calcium chloride should also not be used in steel reinforced concrete or for pre-stressed concrete work.

The admixture is added to gauging water at the rate of 1.7 litres for each 50 Kg of cement.

In winter the gauging water should be at temperature of not less than 20°C particularly when the air temperature is close to zero. When mixed and laid the concrete should be no colder than 10°C. At no time should the component parts of the mix be allowed to become frozen.

WICKES WATERPROOFER AND RETARDER FOR RENDER **5 litres - 240-146**

This plasticising admixture delays the setting time of mortar mixes used for rendering and dashing allowing much larger areas to be worked at a time.

Additionally this liquid admixture improves the workability of the mix and increases resistance to any water penetration of the dried render.

Generally used for exterior rendering it can also be used internally for making good after the installation of injected damp proof courses.

The admixture is added to the gauging water at a ratio of 1 part admixture to 30 parts water.

Calculate at 500-1000ml per 50kg of cement.

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